

ORIGINAL ARTICLE

Genus *Ptyobathra* Turner new to China, with description of a new species (Lepidoptera: Pyralidae: Phycitinae)

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Abstract The genus *Ptyobathra* Turner is newly reported from China. *Ptyobathra recta* **sp. nov.** is described as new; *P. hypolepidota* Turner, 1905 is newly recorded for China. Images of adults and genitalia are provided.

Key words Lepidoptera, Pyralidae, Phycitinae, *Ptyobathra*, new species, new record, China.

1 Introduction

The genus, *Ptyobathra* was established by Turner (1905) with *Ptyobathra hypolepidota* Turner, 1905 as the type species. The genus consists of four known species up to now: *P. polia* Tams, 1935 (Somoa), *P. hades* (Lower, 1903) (Australia), *P. hypolepidota* Turner, 1905 (Australia) and *P. atrisquamella* (Hampson, 1901) (Australia, Japan, Sri Lanka and Indonesia) (Hampson, 1901; Roesler & Küppers, 1979; Inoue, 1982; Roesler, 1983; Horak, 1997).

This paper reports *P. recta* **sp. nov.** as new to science based on the specimens from Hainan Province and *P. hypolepidota* Turner, 1905 for the first time in China based on the specimens from Guangdong and Hong Kong. The type specimens are deposited in the Insect Collection, College of Life Sciences, Nankai University, Tianjin, China.

2 Taxonomy

Ptyobathra Turner, 1905

Ptyobathra Turner, 1905: 49; Horak, 1997: 393.

Type species: *Ptyobathra hypolepidota* Turner, 1905.

Diagnostic characters. Vertex in male with two fan-shaped and inwardly curved long scales along margin of compound eye; male antennae with long scales on dorsal surface of scape and in sinus of flagellae; venation (Fig. 3): forewing with R_3 and R_4 from upper angle of cell and stalked for more than $1/2$ length of R_4 , M_2 and M_3 from same point of lower angle of cell; hindwing with M_1 and R_s short-stalked, M_2 and M_3 connate from lower angle of cell together with CuA_1 ; underside of hindwing in male with a line of dark scales along upper margin of cell and at base of dorsum; abdomen in male with glossy black scales on dorsal surface of segments one to four, with shallow lateral pouches covered by special scales in membrane between segments two and three; in male genitalia, gnathos tapered distally, transtilla elbow-shaped, valva concave at basal $2/5$ on ventral margin and aedeagus with a curved, spine-shaped cornutus; in female genitalia, antrum funnel-shaped, ductus bursae partly sclerotized and shorter than corpus bursae, and corpus bursae at least partially encircled internally by a band of long spines.

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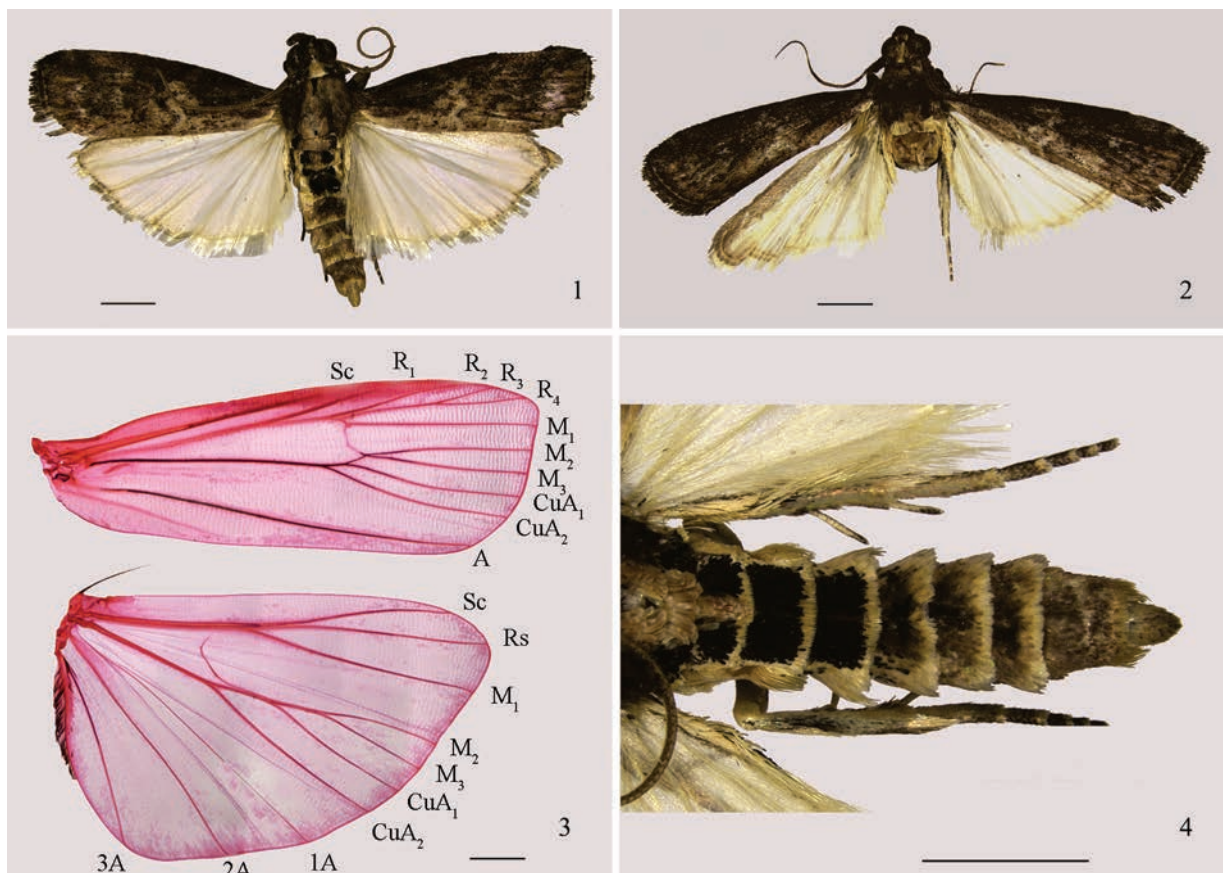
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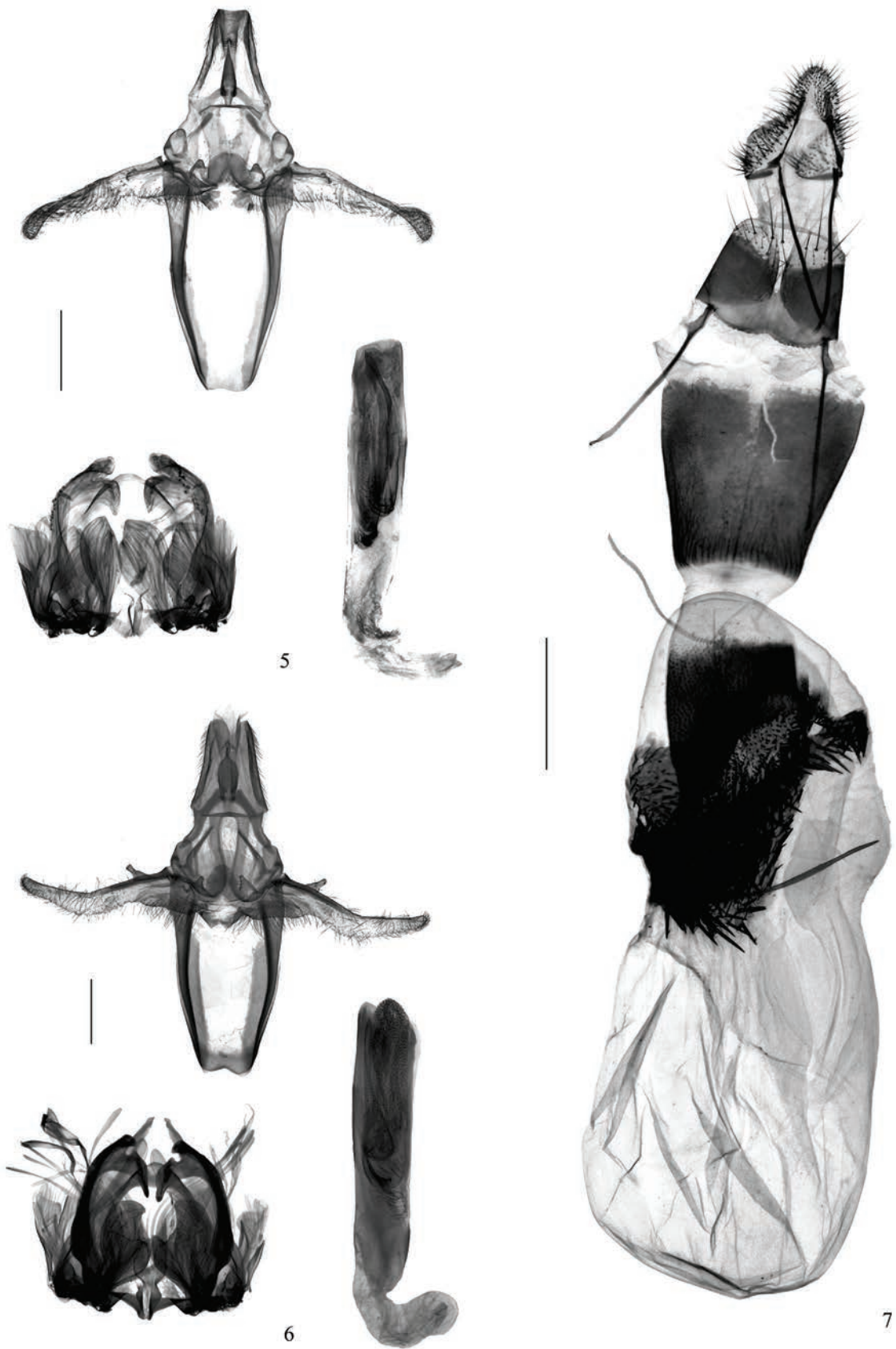
Ptyobathra is similar to *Vinicia* Ragonot, 1893 in the abdominal segments 2 and 3 with deeply invaginated tuft of scales laterally. It can be distinguished by the male labial palpi just reaching vertex, the abdomen in male with black scales on the dorsal surface; the presence of the transtilla, the juxta with lateral arms and the aedeagus without fork-like structure in the male genitalia; and the corpus bursae without spines anteriorly in the female genitalia. In *Vinicia*, the labial palpi exceed far beyond vertex, the abdomen in male lacks black scales on the dorsal surface; the transtilla is absent, the juxta does not have lateral arms and the aedeagus has fork-like structure in the male genitalia; and the corpus bursae possesses spines anteriorly in the female genitalia.

***Ptyobathra recta* sp. nov.** (Figs 1, 3–5, 7)

Holotype ♂, China, Hainan Province, Mt. Diaoluo (18°39'N, 109°54'E; elev. 70 m), 28 May 2007, coll. Zhi-Wei Zhang and Wei-Chun Li, genitalia slide No. LHX12250. Paratypes: 4♂, 2♀, same locality as holotype, 17/28 May 2007, coll. Zhi-Wei Zhang and Wei-Chun Li, 2♀, Mt. Diaoluo, Nanxi Protection Station, elev. 250 m, 19/22 April 2008, coll. Bing-Bing Hu and Hai-Yan Bai, 2♂, Mt. Diaoluo, Nanxi Village, elev. 75 m, 22 April 2013, coll. Ying-Hui Sun, Wei Guan and Teng-Teng Liu; 3♂, 2♀, Maoyang Town, Wuzhishan City (18°55'N, 109°30'E; elev. 225 m), 18–20 April 2009, coll. Qing Jin and Bing-Bing Hu; 1♂, Shuiman Town, Wuzhishan City (18°53'N, 109°46'E; elev. 650 m), 17 April 2009, coll. Zhi-Wei Zhang and Wei-Chun Li; 6♂, 2♀, Datian Nature Reserves (19°06'N, 108°48'E; elev. 100 m), 26–28 April 2009, coll. Qing Jin and Bing-Bing Hu; 1♂, Datian Nature Reserves (19°06'N, 108°48'E; elev. 25 m), 30 November 2009, coll. Lin-Lin Yang and Zhao-Hui Du; 1♂, Liulianling Protection Station, Wanning City (18°58'N, 110°25'E; elev. 100 m), 23 December 2008, coll. Bing-Bing Hu and Li Zhang; 1♀, Yinggeling (19°18'N, 109°32'E), 25 September 2010, coll. Bing-Bing Hu; 1♂, 1♀, Qicha Town, Changjing County (19°13'N, 108°56'E; elev. 125 m), 4 May 2013; 2♀, Baoting County (18°37'N, 109°42'E), 24–25 April 2013; 6♂, 3♀, Jianfeng Town, Ledong County (18°41'N, 108°48'E; elev. 40 m), 28 April–2 May 2013, coll. Ying-Hui Sun, Wei Guan and Teng-Teng Liu.



Figs 1–4. Adults of *Ptyobathra* spp., ♂. 1. Adult of *P. recta* sp. nov., paratype. 2. *P. hypolepidota* Turner. 3. Venation of *P. recta* sp. nov., paratype, slide No. LHX12621W. 4. Abdomen of *P. recta* sp. nov., paratype. Scale bars: 1, 2, 4 = 2 mm; 3 = 1.0 mm.



Figs 5–7. Genitalia of *Ptyobathra* spp. 5. *P. recta* **sp. nov.**, holotype, ♂, slide No. LHX12250. 6. *P. hypolepidota* Turner, ♂, slide No. LHX12347. 7. *P. recta* **sp. nov.**, paratype, ♀, slide No. LHX12558. Scale bars = 0.5 mm.

Description. Adult (Figs 1, 4) with wingspan 15.0–22.0 mm. Vertex in male brown, back head white, with long blackish brown scales along inner margin of compound eye; in female yellowish brown. Antennae in male with scape blackish brown on dorsal surface, yellowish white on ventral surface, length about 2 times of its width; flagellae yellowish white on dorsal surface, yellowish brown on ventral surface, sinus with scales greyish black dorsally, yellowish white ventrally; female antennae filiform, yellowish white. Labial palpi in male with first and second segments yellowish brown, second segment stout, appressed to face and upturned to vertex, distal 1/3 white on inner side, third segment grey, porrect; labial palpi in female yellowish brown on outer side, yellowish white on inner side, third segment length equal to second one. Patagium, tegulae and thorax greyish brown, sometimes suffused with red scales. Forewing elongate, blackish brown, tinged with yellowish brown scales between fold and dorsum; antemedial line yellowish white, sinuate, extending from basal 1/3 of costal margin to middle of dorsum, fading in anterior 1/3, incurved at vein A and lower margin of cell; discal spot indistinct; postmedial line yellowish brown, from distal 1/6 of costal margin to distal 1/5 of dorsum, incurved at vein M_1 and A; fringe greyish brown. Hindwing yellowish white, brown near costal margin and termen; fringe white; underside with black scales along upper margin of cell and at base of dorsum. Abdomen brown on dorsal surface, in male basal four segments with black scales (Fig. 4). Legs greyish brown to reddish brown; tarsi black each segment fading distally; inner spurs 1.8 times length of outer spurs.

Male genitalia (Fig. 5). Uncus trapezoidal, length about 2.7 times of its width on posterior margin; posterior margin straight; lateral margin folded, densely setose dorsally. Gnathos about 2/3 length of uncus. Transtilla with basal half wide, distal half narrower and digitate. Valva narrow and elongate, basal 2/5 wide, nearly triangular, distal 3/5 gradually narrowed, densely setose; clasper located at basal 2/5 of valva near costa, nearly rectangular, sparsely setose distally; costa narrow, reaching end of valva; sacculus nearly triangular, about 2/5 length of valva, with long bristles on ventral margin. Juxta tongue-shaped, lateral arms papillary. Vinculum U-shaped, anterior margin slightly concave at middle. Aedeagus cylindrical, 1.4 times length of valva, distal 2/3 with sclerotized wrinkles and granules; cornutus one, curved, spine-like, placed at distal part of aedeagus. Culcita four pairs.

Female genitalia (Fig. 7). Papillae anales triangular, length about 1.7 times of width at base, densely setose. Eighth abdominal segment with length equal to width, anterior and posterior margin concave medially. Apophyses posterior 1.3 times length of apophyses anterior. Antrum wide, funnel-shaped, anterior 1/4 with longitudinal wrinkles. Ductus bursae short, about 3/10 length of corpus bursae, anterior half sclerotized. Corpus bursae long ovate, membranous, length about 3 times of width, constricted at middle, encircled with a band, gradually narrower from the constriction and covered with long spines. Ductus seminalis originating from posterior part of corpus bursae.

Diagnosis. This species is similar to *P. hypolepidota* Turner, 1905 in morphology, but can be distinguished from the latter by the scape of antennae in male without a spindle-shaped process, the uncus straight on the posterior margin and the rectangular clasper in the male genitalia, as well as the corpus bursae not coiled in the female genitalia. In *P. hypolepidota*, the scape of antennae in male has a spindle-shaped process; the uncus is deeply concave at middle on the posterior margin, and the clasper is elongate digitate in the male genitalia; and the distal half of the corpus bursae is coiled in the female genitalia.

Distribution. China (Hainan).

Etymology. The specific name is derived from Latin *rectus*, meaning straight, referring to the straight posterior margin of uncus in the new species.

***Ptyobathra hypolepidota* Turner, 1905 (Figs 2, 6)**

Ptyobathra hypolepidota Turner, 1905: 49; Shaffer *et al.*, 1996: 176; Horak, 1997: 397.

Material examined. China, 1♂, Mt. Lianhua, Dongguan City (23°12'N, 113°45'E; elev. 120 m), Guangdong Province, 11 April 2004, coll. Dan-Dan Zhang; 1♂, Mt. He (22°45'N, 112°57'E), Guangdong Province, 16 July 2003, coll. Gui-Lin Liu; 1♂, Jiadaoli Farm (22°25'N, 114°06'E; elev. 210 m), Hong Kong, 9 April 2007, coll. Hou-Hun Li.

Diagnosis. Adult (Fig. 2) with wingspan 22–24 mm. This species can be distinguished from its congeners by the scape of antennae in male with a spindle-shaped process, the uncus deeply concave on the posterior margin and the digitate clasper in the male genitalia (Fig. 6).

Notes. This species is newly recorded from China.

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References

- Hampson, G. F. 1901. Supplément au Tome Premier de la Monographie des Phycitinae. *In*: Romanoff, N. M. (ed.), *Mémoires sur les Lépidoptères*. 8: 511–559.
- Horak, M. 1997. The phycitine genera *Faveria* Walker, *Morosaphycita*, gen. nov., *Epicrocis* Zeller, *Ptyobathra* Turner and *Vinicia* Ragonot in Australia (Pyralidae: Phycitinae). *Invertebrate Taxonomy*, Melbourne, 11: 333–421.
- Inoue, H. 1982. Pyralidae. *In*: Inoue, H., Kuroko, H., Moriuti, S. and Kawabe, A. (eds.), *Moths of Japan*. 1: 307–404; 2: 223–254. Kodansha, Tokyo.
- Lower, O. B. 1903. Descriptions of new Australian Noctuina, etc. *Transactions of the Royal Society of South Australia*, 27: 27–74.
- Roesler, R. U. and Küppers, P. V. 1979. Die Phycitinae (Lepidoptera: Pyralidae) von Sumatra; Taxonomie Teil A. *Beiträge zur Naturkundlichen Forschung in Südwestdeutschland*, Beih. 3: 1–249.
- Roesler, R. U. 1983. Die Phycitinae von Sumatra (Lepidoptera: Pyralidae). *Heterocera Sumatrana*, Keltern, 3: 1–136.
- Shaffer, M., Nielsen, E. S. and Horak, M. 1996. Pyraloidea. *In*: Nielsen, E. S., Edwards, E. D. and Rangsi, T. V. (eds.), *Checklist of the Lepidoptera of Australia*. CSIRO Division of Entomology, Canberra. 164–199.
- Tams, W. H. T. 1935. Lepidoptera, Heterocera. *Insects of Samoa*, London, 3(4): 169–290, pl. 6–18.
- Turner, A. J. 1905. A preliminary revision of the Australian Thyrididae and Pyralidae. II. *Proceedings of the Royal Society of Queensland*, Brisbane, 19: 39–63.